Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program: TY B Tech	School of Commerce and Management	Department: Electrical Engineering
Course Code: ELE103	Course Title: Battery Management System	Semester :VI
Day and Date:	End Semester Examination	Time:2 Hrs. Max Marks:50

Instructions: 1) All Questions are compulsory.

Q.1		Answer/Solve the following (any Two)	Marks	Bloom's Level	CO
	a)	Describe in details Energy storage systems in EV.	8	L1	CO1
	b)	Explain the Fuel cells design and construction	8	L2	CO1
	c)	Write the Comparison between the Lead Acid, Nickel-based, Lithium Batteries	8	L4	CO2
Q.2		**Answer/Solve the following (any two)**			
	a)	Explain in details state of charge Estimation	8	L2	CO2
	b)	Explain the following terms a. cell voltage, module voltage b. Cell and module temperature. c. Pre-charge temperature. d. Pack voltage.	8	L2	CO3
	c)	Write a note on liquid and air thermal control system configurations for HEV Application.	8	L3	CO3
Q.3		**Answer/Solve the following (any two)**			
	a)	Explain the bidirectional converter in EV charging method.	9	L4	CO4
	b)	Explain in details types of sensors used in EV.	9	L3	CO4
	c)	Discuss detail off-board conductive charger with its block diagram.	9	L3	CO3

*****